

CLAIMS

What is claimed is:

- 5 1. A method of optical power calibration for
calibrating a writing optical power of an optical
storage carrier player, the optical storage carrier
player comprising an access device for writing data
onto an optical storage carrier, the optical storage
10 carrier comprising a central portion, a data storage
area located outside the central portion, and an
outer power calibration area located outside the
data storage area, the method comprising steps of:
15 (a) the access device performing an optical power
calibration in the outer power calibration area
to determine an optimized optical power; and
(b) the access device writing the data onto the data
storage area by applying the optimized optical
power.
- 20 2. The method of optical power calibration of claim 1
wherein the optical storage carrier further
comprises a last possible lead-out area located near
an outer edge of the optical storage carrier for
25 recording ending information, and the outer power
calibration area is located within the last possible
lead-out area.
- 30 3. The method of optical power calibration of claim 2
wherein the last possible lead-out area comprises
a predetermined length separation disposed between
a starting point of the outer power calibration area
from a starting point of the last possible lead-out
area.
- 35 4. The method of optical power calibration of claim 3
wherein the predetermined length separation
corresponds to at least 1 minute period at a normal

playing speed.

5. The method of optical power calibration of claim 1
wherein a length of the outer power calibration area
is corresponding to at least 20 second period at a
normal playing speed.

10 6. The method of optical power calibration of claim 1
wherein the outer power calibration area further
comprises a test area for allowing a test data written
thereon during the power calibration, and a count
area for recording a number count of power
calibrations already performed on the outer power
calibration area.

15 7. The method of optical power calibration of claim
1 wherein the optical storage carrier further
comprises an inner power calibration area located
close to the central portion, and the inner power
calibration area comprises a count area for
recording a number count of the optical power
calibrations already performed within the inner
power calibration area, the method further comprises
step before the step (a):

20 25 performing the optical power calibration in the
inner power calibration area if the number count
is less than a predetermined number of power
calibrations capable of being performed in the
inner power calibration area, and then skipping
30 the step (a).

35 8. An optical storage carrier player for accessing an
optical storage carrier, the optical storage carrier
comprising a central portion, a data storage area
located outside the central portion, and an outer
power calibration area located outside the data
storage area, the optical storage carrier player
comprising:

an access device for writing data on an optical storage carrier; and
a control apparatus for controlling the access device to perform an optical power calibration in
the outer power calibration area to determine an optimized optical power.

9. The optical storage carrier player of claim 8 wherein
the optical storage carrier further comprises a last
possible lead-out area located near an outer edge
of the optical storage carrier for recording ending
information, and the outer power calibration area
is located within the last possible lead-out area.

15 10. The optical storage carrier player of claim 9
wherein a predetermined length separation is disposed between a starting point of the outer power calibration area and a starting point of the last possible lead-out area.

20 11. The optical storage carrier player of claim 10
wherein the predetermined length separation corresponds to at least 1 minute period at a normal playing speed.

25 12. The optical storage carrier player of claim 8
wherein a length of the outer power calibration area corresponds to at least 20 second period at a normal playing speed.

30 13. The optical storage carrier player of claim 8
wherein the outer power calibration area further comprises a test area for allowing a test data written thereon during the power calibration and a count area
35 for recording a number count of the power calibration already performed on the outer power calibration area.

14. The optical storage carrier player of claim 8
wherein the optical storage carrier further
comprises an inner power calibration area located
close to the central portion, and the inner power
calibration area comprises a count area for recording
5 a number count of the optical power calibrations
already performed in the inner calibration area; when
the number count is less than a predetermined number,
the access device performs the optical power
10 calibration in the inner power calibration area
instead of the outer power calibration area.

15. A optical storage carrier comprising:
a central portion;
15 a data storage area located close to the central
portion for writing data; and
an outer power calibration area located outside the
data storage area for performing an optical power
calibration to determine an optimized optical
20 power.

16. The optical storage carrier of claim 15 further
comprises a last possible lead-out area located near
the outer edge of the optical storage carrier for
recording ending information, and the outer power
25 calibration area is located within the last possible
lead-out area.

17. The optical storage carrier of claim 16 wherein
30 a predetermined length separation disposed between
a starting point of the outer power calibration area
from a starting point of the last possible lead-out
area.

35 18. The optical storage carrier of claim 17 wherein
the predetermined length separation corresponds to
at least 1 minute period at a normal playing speed.

19. The optical storage carrier of claim 15 wherein
a length of the outer power calibration area
corresponds to at least 20 seconds period at a normal
playing speed.

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20. The optical storage carrier of claim 15 wherein
the outer power calibration area comprises a test
area for allowing a test data written thereon during
the power calibration, and a count area for recording
10 a number count of power calibrations already
performed on the outer power calibration area.

15 21. The optical storage carrier of claim 15 wherein
the optical storage carrier further comprises an
inner power calibration area located closer to the
central portion than the data storage area.

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